Feb. 9. The comet is now merely a bright nebulosity, nearly circular, and of about 3′ in diameter; no trace whatever of a tail or any other appendage.
Feb. 16 and 18. Bright moonlight; the comet barely visible.
Feb. 18 to 27. No observations could be obtained; the moonlight completely obliterating the comet.
Feb. 27. The comet seen again. Its appearance was a faint nebulosity, about 2′¼ in diameter, and with no apparent condensation of light.
March 13. The presence of the moon again rendered the comet invisible.

The foregoing observations were made by Mr. Mann.

(Signed) THOS. MACLEAR.

Royal Observatory, Cape of Good Hope,
24th March, 1845.

4. Sextant Observations of Wilmot's Comet made at sea during a voyage from Van Dieman's Land to England. By Joseph Dayman, Esq. Lieut. R.N. Communicated by Captain Beaufort.

The comet was first seen on the evening of December 27, 1844, at sea, in latitude 42° south, and longitude 129° east: observations with a sextant were repeated whenever circumstances would permit, until its disappearance to the naked eye on the 6th of February, 1845. The distances of the nucleus from those stars which formed with it, as nearly as possible, a right-angled triangle, were measured, and the mean time was noted by a chronometer.

A sketch of its appearance on the 10th of January is subjoined; and near the end of the series a sketch of the relative positions of the comet and some of the neighbouring stars with which it was compared, but of whose names the author was ignorant.

5. Sextant Observations of Wilmot's Comet made on board the barque Ceylon. By E. W. Beazley, Esq. Commander, R.N.

Observations were made on every favourable night, from December 20, 1844, to February 6, 1845. The author does not rely greatly on their accuracy on account of the unfavourable state of the weather, but considers that they may be useful as giving approximate places of the comet.

6. An Observation of the Second Great Comet of 1845 (Colla's). By C. Rumker, Esq. Communicated by Dr. Lee.

On June 9, at $12^h\ 26^m\ 44^s{\cdot}7$, Hamburg mean time, the apparent right ascension of the comet was $84^\circ\ 52'\ 57''{\cdot}0$, and its declination $45^\circ\ 28'\ 10''{\cdot}1$ north.

7. Observations of the Second Great Comet of 1845 (Colla's), made at Ashurst. By R. Snow, Esq.

The comet was first observed on June 9, and its right ascension deduced from the observation made with the transit instrument at the lower culmination was $5^h\ 40^m\ 8^s{\cdot}27$. It was also observed on

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June 10, 11, and 12, and comparisons with neighbouring stars were made, which will be rendered available when the places of the comparison stars have been accurately determined.

VII. Observations of the Solar Eclipse of 1845, May 5, and of the Transit of *Mercury* of 1845, May 8, in a Letter from W. Lassell, Esq.

" *Starfield, Liverpool,* 10*th June,* 1845.

" I send you such observations as I have been able to make of the late solar eclipse and transit of *Mercury*, for which the weather was, in some respects, but very unfavourable.

" May 5, 1845. With a very unpromising sky I prepared to observe the first contact of the solar eclipse by placing that part of the sun's limb (then very indistinct) which the moon would first touch, between the parallel threads of the micrometer, applied to the nine-feet equatoreal, with a power of ninety-six times.

" As the time of contact approached the sky somewhat cleared, and the moon's first impression took place at $23^h\ 14^m\ 37^s{\cdot}8$ sidereal time, or $20^h\ 18^m\ 24^s{\cdot}17$ mean time at the observatory. During the greatest part of the obscuration the sky was very cloudy, but towards the end it cleared, and the last contact was well observed at $1^h\ 33^m\ 48^s{\cdot}9$ sidereal, or $22^h\ 37^m\ 12^s{\cdot}45$ mean time. No phenomena beyond what is usual occurred; nor was there, to my senses, any perceptible diminution of light on the landscape.

" May 8. For the transit of *Mercury* the appearances a short time before it began were still more unpromising. During the forenoon, we had several showers, with a most gloomy sky; and even as late as half-past three P.M. we had a smart shower of close, small rain. A little change for the better occurred shortly before four, and I had just time to set the micrometer by the sun's limb after he became visible, and get settled at the telescope, when the first notch was cut out by the planet. The sun's limb was beautifully sharp, but occasionally obscured by passing clouds. From the time, however, of the first impression until the planet had advanced about two of its diameters upon the disc of the sun, it was generally unclouded, and the atmosphere remarkably tranquil. The first contact took place at $7^h\ 13^m\ 36^s{\cdot}3$ sidereal time, or $4^h\ 8^m\ 12^s{\cdot}36$ mean time. The internal contact, or complete immersion of the planet, took place at $7^h\ 16^m\ 48^s{\cdot}7$ sidereal, or $4^h\ 11^m\ 24^s{\cdot}24$ mean time. Both times were carefully and, I believe, accurately noted. Whilst the planet was traversing the *edge* of the sun, an apparent distortion took place, the parts of the sun's edge, or limb, in contact with the planet, appearing *rounded off;* and a moment or two before the complete immersion of the planet, an appearance analogous to *Mr. Baily's beads* took place,— the planet apparently breaking contact two or three times with the sun's limb before the final separation occurred. *Mercury* had also, to my eye, somewhat of a pear-like shape previously to his

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